

The4thware Industrial Board (MATX)

1th Generation Intel Xeon Scalable Series Platform

T4WARR-C621-MATX2



PRODUCT SPECIFICATION

Physical Status	
Form Factor	Micro-ATX
Dimensions	9.6" x 9.6" (244 mm x 244 mm)
Processor System	
CPU	Intel® Xeon® Scalable Processors
Socket	Single Socket P (3647)
Chipset	Intel® C621
System Memory	
Supported DIMM Quantity	6 x 288-pin DDR4 DIMM slots Support up to 64GB DDR4 RDIMM/LR DIMM/Apache Pass DIMM
Supported Type	Six Channel DDR4 memory technology Support DDR4 2933*/2666/2400/2133 RDIMM/LR DIMM and Apache Pass DIMM *DDR4 2933 memory is supported only when using the Intel® Cascade Lake CPU and Intel® Cascade Lake BIOS.
Max. Capacity per DIMM	RDIMM/LR DIMM and Apache Pass DIMM: 64GB, 32GB, 16GB, 8GB, 4GB
Max. DIMM Frequency	RDIMM/LR DIMM and Apache Pass DIMM: 2933*/2666/2400/2133 MHz *DDR4 2933 memory is supported only when using the Intel® Cascade Lake CPU and Intel® Cascade Lake BIOS.
Voltage	1.2V
PCIe Expansion Slots (SLOT7 close to CPU)	
PCIe x 16	SLOT6: PCIe3.0 x16 SLOT4: PCIe3.0 x16 * *EPC621D6U-16R / EPC621D6U-2T16R only: The SAS_NVMEA0_7 and SAS_NVMEB0_7 are shared with the SLOT4 slot. When SLOT4 is populated with a PCIe card, SAS_NVMEA0_7 and SAS_NVMEB0_7 are disabled.
Other PCIe Expansion Connectors	
M.2 slot	1 M-key* (PCIe3.0 x4 or SATA 6Gb/s), supports 2280/2260/2242/2230 form factor * SATA type is shared with SSATA_5
Others	1 Slimline (PCIe3.0 x8) [CPU1]
SATA/SAS Storage	
PCH Built-in Storage	30 x SATA3 6Gb/s (including 1 x SATA DOM port (SSATA_5), shared with M.2 (PCIe3.0(x4))/ SATA3)), 7 x MiniSAS HD connectors (SATA_0_3 / SATA_0_7 / SAS_NVMEA0_7 / SAS_NVMEB0_7), and 1 x SATA port (SSATA_4)), support RAID 0, 1, 5, 10
Additional SATA Controller	LSI3616 (shared with PCIE Slot4)

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Ethernet	
Interface	10000/1000 /100 Mbps
Additional GbE Controller	Intel® X550: 2 RJ45 (10GbE)
Server Management	
BMC Controller	ASPEED AST2500
IPMI Dedicated GLAN	1 x Realtek RTL8211E for dedicated management GLAN
Features	Watch Dog NMI
Graphics	
Controller	ASPEED AST2500
VRAM	DDR4 256MB
Rear I/O	
UID Button/LED	1
VGA Port	1 (D-Sub)
USB 3.2 Gen1 Port	2
RJ45	2 RJ45 (10GbE)
Dedicate LAN	1 dedicated IPMI LAN port
Internal Connector/Headers	
Power Connector	1 (24-pin, ATX main power), 1 (8-pin, ATX 12V)
Auxiliary Panel Header	1 (18-pin): chassis intrusion, system fault LED, LAN1/LAN2 activity LED, locate, SMBus
System Panel COM Header	1 (9-pin): power switch, reset switch, system power LED, HDD activity LED
Speaker Header	1 (4pin)
Buzzer	1
Fan Header	6 (6-pin)
Thermal Sensor Header	1
TPM Header	1
SGPIO Header	1
SMBus header	1
PMBus header	1
IPMB Header	1
Clear CMOS	1 (contact pads)
ME/SPS Recovery	1
USB 3.2 (Gen1) Header	1
USB 2.0 Header	1

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Type A USB 3.2 (Gen1) Port	1
NMI Header	1
LED Indicators	
Standby PWR LED 5vsb	1
80 Debug Port LED	1
Fan Fail LED	6
System BIOS	
BIOS Type	256Mb AMI UEFI Legal BIOS
BIOS Features	Plug and Play (PnP) ACPI 2.0 Compliance Wake Up Events SMBIOS 2.8 Support ASRock Rack Instant Flash
Hardware Monitor	
Temperature	CPU Temperature Sensing System Temperature Sensing
Fan	CPU/Rear/Front Fan Tachometer CPU Quiet Fan (Allow Chassis Fan Speed Auto-Adjust by CPU Temperature) CPU/Rear/Front Fan Multi-Speed Control
Voltage	Voltage Monitoring: +12V, +5V, +3.3V, CPU Vcore, DRAM, 1.05V_PCH, +BAT, 3VSB, 5VSB

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Supported OS	
OS	<p>Microsoft® Windows® (Server OS): Server 2012 R2 (64 bit) Server 2016 (64 bit)</p> <p>Linux: Red Hat Enterprise Linux Server 6.8 (64 bit) / 7.4 (64 bit) CentOS 6.8 (64 bit) / 7.4 (64 bit) SUSE Enterprise Linux Server 11 SP4 (64 bit) / 12 SP3 (64 bit) FreeBSD 11.2 (64 bit) Ubuntu 16.04 (64 bit) / 15.10 (64 bit)</p> <p>Virtual: VMWare® ESXi 6.5 u1 Citrix XenServer 7.5 Win hyper-V Server 2016</p> <p>*On Ubuntu 16.04 (64bit) system, Intel® Raid mode only supports UEFI BOOT. *LSI does not support Vmware ESXi 6.5 u1 / Ubuntu 16.04 (64 Bit) / Ubuntu 15.10 (64 Bit) / Citrix XenServer 7.5 OS install.</p>
Environment	
Temperature	Operation temperature: 10°C ~ 35°C / Non operation temperature: -40°C ~ 70°C
Humidity	Non operation humidity: 20% ~ 90% (Non condensing)